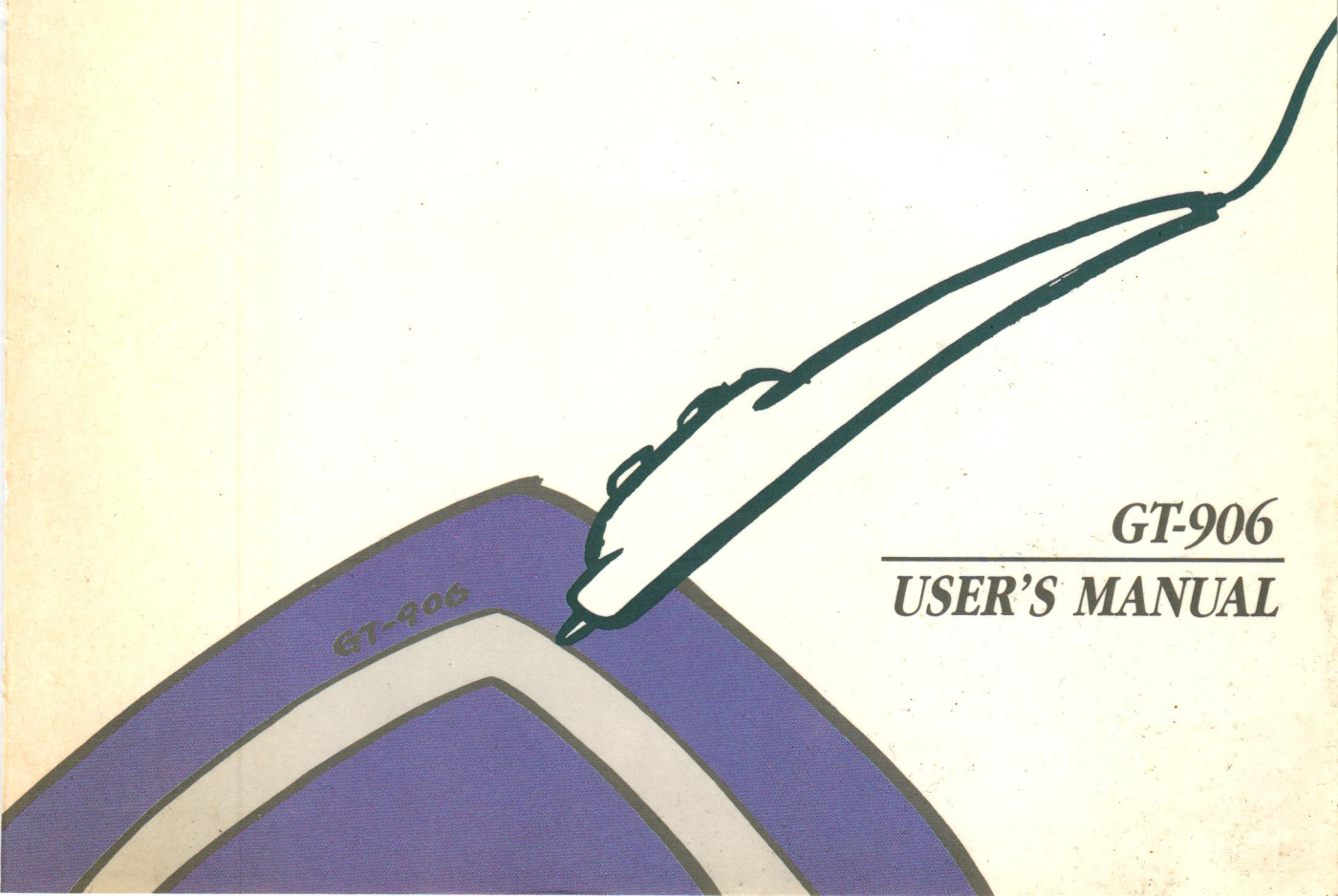
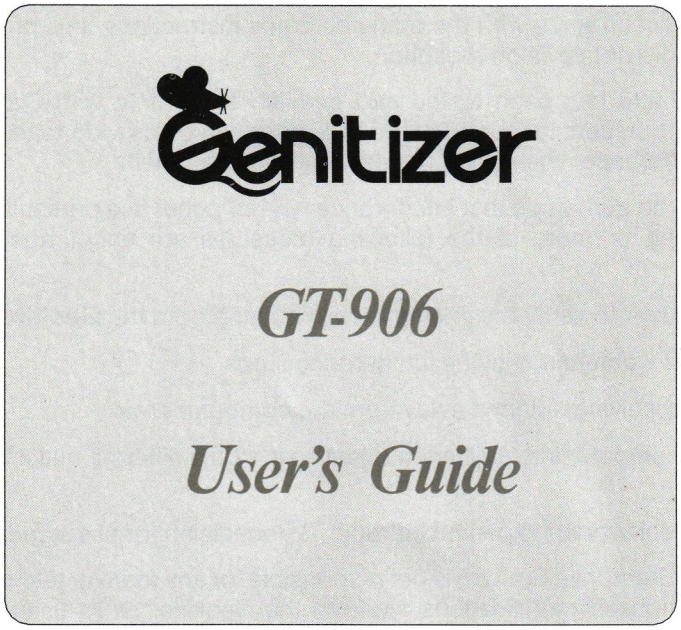
Genitizer



GT-906

USER'S MANUAL



GT-906

User's Guide

FCC Regulation

When under operation, this product may generate radio frequencies. If it is not installed and used properly in accordance with the manufacturer's instructions, this product may cause interference to radio or television reception.

The Genitizer GT-906 has been tested and certified to comply with Class B limits for a computer device, pursuant to Part 15 of the FCC rules, which provide reasonable protection against such interference when used in a residential environment.

However, there is no guarantee that interference will not occur in a particular environment. If it does occur, one or more of the following measures are encouraged to correct the interference:

Turn off the **Genitizer** to verify the interference is coming from the **Genitizer.**

Turn the radio or TV antenna until the interference stops.

- Reorient the receiving antenna away from the computer area.
- Connect the computer into a different outlet so it is on a different outlet than the receiver.
- Consult the dealer or an experienced radio TV technician for assistance.

Notice: Kun Ying Enterprise Co.,Ltd. is not responsible for any radio or television interference caused by unauthorized modifications made to the Genitizer or its use with non-certified computers.

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Preface

This manual contains the information required to get your GT-906 tablet in operating condition. The manual is separated into 2 chapters and three appendixes and an index. **Chapter 1** begins with an introduction of the GT-906 tablet and its contents. **Chapter 2** explains the installation procedures to attach the tablet to your computer system.

Appendix A shows you how to configure the tablet to work with the AutoCAD template. **Appendix B** explains the ASCII conversion charts and Appendix C contains the command list for the GT-906 tablet.

Note: For users residing in Australia only. At the time of the release of this product, a power adaptor was not available for this tablet. We have included keyboard connectors which attach to your keyboard cable and the GT-906 tablet.

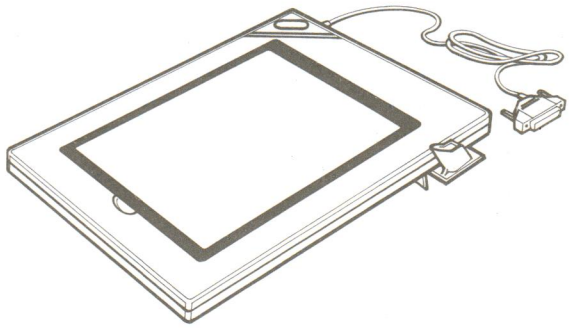
Chapter 1

Introduction

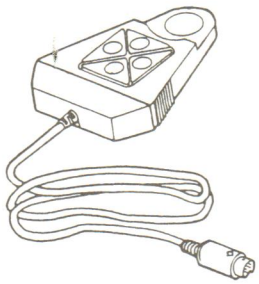
GT-906 Series Package

The following components are included in the **GT-906** package:

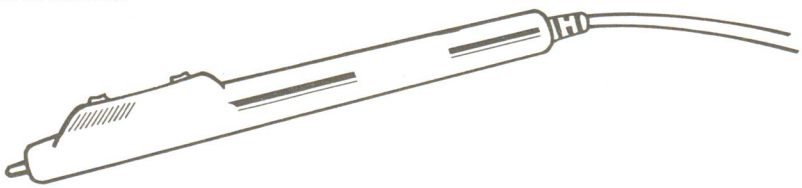
Genitizer with lift-up cover sheet
Working area is 9" X 6"
Overall Dimensions are 239mm X 333mm



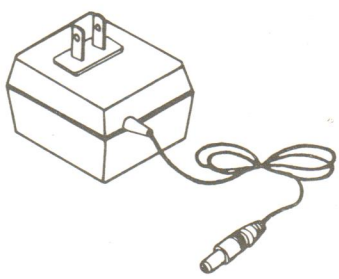
Genius Cursor (Optional)



Genius Stylus & Holder



Genius Power Adaptor (not available in Australia)



1 Introduction

User's Guide

AutoCAD template

System Requirements

The following requirements are necessary to operate the **Genius Tablet:**

IBM PC/XT/AT PS2 or compatible computer
An RS232C Serial Interface
DOS of MS DOS 2.0 or later version
A minimum working area of 228mm X 152mm

Introduction

The Genius Tablet is used for detailed work to create or reproduce objects such as diagrams, drawings, building layouts, and maps. It is a drawing board (also known as a digitizer) that allows you take graphic information and transform it into digital form for use with your computer.

Using the Genius Tablet permits you to:

- Trace anything; pictures, drawings, photos, maps, etc..
- Draw freehand; achieve precision and accuracy
- Move the cursor to select commands on the template, or move objects on the screen

Create a symbol library to accelerate the insertion of your most often used symbols into your drawing

You're not only able to reproduce any type of graphic, but you can paint your images with colors using Dr. Halo III, enlarge or reduce a portion of your image, use either the CasCAD II or AutoCAD templates for creative designs, and make calculations.

The Genius Tablet is very accurate and reliable. It's using the latest technology available for digitizers. The Genius Tablet consists of a stylus and the drawing tablet. As the stylus (or cursor) is moved across the surface of the tablet, the location of its position is read by the internal wires which are located in the tablet. Any point detected on the tablet is described numerically as an X and Y coordinate value. These X,Y coordinate pair numbers are then sent to the computer as graphic data.

To utilize the data generated from the Genius Tablet and reproduce a hard copy, the following is necessary:

- IBM PC/XT/AT/PS2 or compatible computer
- Graphic Display (Monochrome or Color)
- Graphic Input Device (Genius Tablet)
- Graphic Output Device (Plotter, Graphic Printer, or Film Recorder)
- Graphic or CAD Software

Application software is used with any graphic system. The software accepts data from input devices and then processes this data so that information sent to the output devices is correct.

When data is sent from the Genius Tablet to the application software, it is in numeric form which represents the position of the stylus (or cursor) on the tablet. The software then determines how the position data is to be used. This position data might include controlling a crosshair on the screen, selecting a command, calculating an area of irregular shape by tracing around the shape, etc...

How the Genitizer Operates

The area of the tablet is covered by a cover sheet which protects the templates being used. This area is also called the working area.

The position of the cursor (or stylus) on the Genius Tablet is determined by its X,Y coordinate pair numbers (report) and is expressed in counts of resolution (one count being the distance between lines of resolution). Resolution is the smallest distance that the Genius Tablet can distinguish and this amount is expressed in lines per inch (lpi) or lines per millimeter (lpmm). More precise graphics and designs can be created using higher resolution.

Absolute coordinates are measured from the tablet's origin (0,0). The coordinate 0,0 is found at the lower left hand corner of the working area depending if the tablet is in the horizontal or vertical position.

Relative coordinates are measured from the last coordinate pair values.

Absolute coordinates are reported in all the modes except Delta Mode, where the relative coordinates are reported.

The working area of the tablet is the area where the cursor (or stylus) position can be identified; the cursor (stylus) is directly on the tablet or can be raised a maximum of 1 inch above the tablet. A three-dimensional area is established from which the cursor (or stylus) can give valid reports. If the cursor is moved outside of the tablet working area or "out of proximity", the coordinate position or report cannot be given.

Chapter 2

Installation

This chapter explains the installation procedures and the programs to configure your GT-906 Series tablet. The following files are included in your utility diskette:

READ.ME This file contains the latest information regarding update versions for the GT-906 Series. This file takes precedence over the information contained in this manual.

GTTEST.EXE This file is the test program where you can check the working status of the configuration, dip switches, puck or stylus buttons.

SETUP.DOC This file has two section which explain the hardware and software installation procedures step by step for the GT-906 Series.

GENITIZE.DOC This file explains the steps necessary for writing a software driver. This file also gives remote commands through your computer and details of the operations.

GTADI.DOC This is the ADI driver file for use with AutoCAD, Autoshade, and Auto-Sketch.

GTADI.DOC This file contains the method for using the ADI driver.

GTFMT.COM This is the utility program file to change the GT-906 Series output format.

GTFMT.DOC This file provides the necessary steps for using the GTFMT.COM program.

ACADR10.MNU This is the template file when you are using AutoCAD version 10. Labels are provided to place on the template to update to version 10.

TEMPLATE.DWG This is the sample drawing file of the AutoCAD file.

We recommend that you read through each of these files before you use the GT-906 Series tablet.

The GT-906 Series tablet comes from the factory configured for the following (with all the Dip Switches in the OFF position):

Digitizer

Binary Output

Odd Parity Enable

9600 Baud Rate

This is the standard setting to use with a CAD program.

Proceed to the next step if you are using the Genius Tablet in the preset configuration. Run the SETUP.DOC file to choose your selections. If you want to install the GT-906 Series report format from the DOS prompt line or from a batch file, you can do so by running GTFMT.COM. The information in this program is shown below.

GTFMT.COM is a utility program to change the Genitizer output report format to emulate other digitizers. It can be installed from the DOS command prompt or from a batch file. The GTFMT.COM has two arguments.

1st argument : Select Communication port.

C1 for COM1 (3F8H) Default
C2 for COM2 (2F8H)

2nd argument : Select Report Format.

F1 for Summagraphics MM series Default
F2 for Bit Pad One/CalComp 2000
F3 for GTCO Digi-pad type 5
F4 for GTCO Digi-pad type 7
F5 for Hitachi Tiger

Suppose a CAD program can only use certain kinds of digitizers other than the Summagraphics MM series, you can select the appropriate com port and output format by typing: GTFMT [com port] [format] before running your CAD program. After you have done this, the GT-1212B Series tablet is ready to emulate the digitizer you selected in the report format.

Usage : GTFMT [Com port] [Format]
Default : GTFMT C1 F1
Remark: Set COM1 port and select Summagraphics MM serial format.

The GTFMT.COM is also a Menu Driven program to select the COM port and Format. If you run the GTFMT.COM and enter incorrect arguments or don't enter any argument after GTFMT, then the MENU appears for you to select the communication port and report format. The MENU is shown below and automatically detects the current COM port and Report Format. (shown by *)

Select COM port and Report Format	
*	1. Serial Port COM1 (3F8H)
	2. Serial Port COM2 (2F8H)
*	1. Summagraphics MM series
	2. Bit Pad One/CalComp 2000
	3. GTCO Digi-pad (type 5)
	4. GTCO Digi-pad (type 7)
	5. Hitachi Tiger
	Setup format & exit to DOS
	Abandon and exit to DOS

Use the arrow keys to change the communication port and press ENTER for the correct selection in the first window. Press the SPACE bar to move to the Report Format window and use the arrow keys to select the correct format and press ENTER for the correct selection.

Press the SPACE bar again to move to the bottom window and use the arrow keys to select the setup Report Format or the abort setup and return to the DOS prompt.

Another way to configure your Genitizer is by running the GTADI.COM program. The information in this file is shown below.

GTADI.COM is an ADI driver for use with AutoCad(R), AutoShade(R), and AutoSketch(R) by AutoDesk, Inc, which provides ADI version 1.0 compatibility and default installed on interrupt 79(h).

GTADI.COM is a TSR program (Terminate and Stay Resident) that can be run from the DOS command prompt or from a batch file. It has three optional arguments.

1st argument : Select Communication port.

C1 for COM1 <Default>
- C2 for COM2

2nd argument : Select Interrupt vector, From 40(h) to FF(h).

V40 for define interrupt 40(h)
V79 for interrupt 79(h) <Default>
VFF for define interrupt FF(h)

3rd argument : Select Baud Rate of Communication.

R1 for 150 bps
R2 for 300 bps
R3 for 600 bps
R4 for 1200 bps
R5 for 2400 bps
R6 for 4800 bps
R7 for 9600 bps <Default>
R8 for 19200 bps

If there is a problem in using GT-1212B Series with Autodesk programs, type GTADI [Com port] [Vector] [baud Rate] under DOS prompt before running your Autodesk programs and then choose ADI digitizer option in the "Configure Input Device" menu of Autodesk programs. After this procedure, the GT-1212B Series Tablet is ready to work with the Autodesk programs.

Default : GTADI C1 V79 R7

Note: Un-expected power up and or mode setting may cause the GT-906 Series tablet to have a boot-up failure. If this occurs, press the reset switch in the rear of the tablet to restart the device.

If it is necessary to change the configuration, refer to the table below for the correct switch settings.

Switch		Function
SW1	SW2	Operating Mode
OFF	OFF	Digitizer Binary Mode
OFF	ON	Digitizer ASCII Mode
ON	OFF	Mouse Systems Mouse
ON	ON	Microsoft Mouse

SW3	Parity Bit Setting
OFF	Odd parity bit enabled
ON	Parity bit disabled

SW4	Baud Rate Setting
OFF	9600bps, fixed
ON	Autobaud (150-19200bps)

Note: If the operating mode is set for the Mouse Mode, you can set SW2 to select Mouse Systems or Microsoft Mouse Mode. Switches 3 and 4 are not affected and do not need to be set when operating in the Mouse mode.

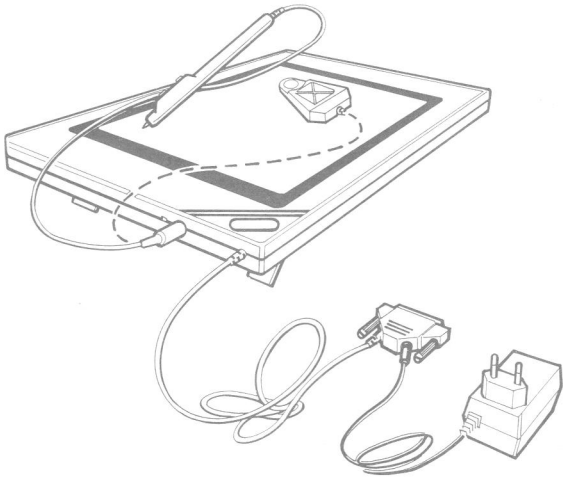
1. Make sure all equipment is powered OFF when making modifications to the Genius Tablet, computer, or peripherals.
2. At the rear of the tablet is a cable with a female DB25 connector attached to it. There is also a socket for a DC jack.

   Connect the DB25 connector to the RS232C port at the rear of your computer.
3. The cursor (or stylus) has a male 8-pin mini DIN connector located at the end of the cable. This connector is attached to the rear of the Genius Tablet.

4. The Genius Tablet is powered from an independent power supply, this power supply must meet the following specifications: (300mA, +5VDC +/-10% regulation). You must use a Genius Power Adapter for connection. The adapter has a DC jack at one end which plugs into the socket located on the backside of the female DB25 connector. The other end of the adapter cable plugs into your power supply.
5. To tilt the Genius Tablet, pull out the two legs located at the back of the tablet.

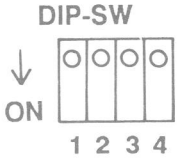
The Genius Tablet is now ready for operation. If the unexpected power on or mode setting pulse causes boot-up failure, press the reset switch at the rear of the tablet to restart the device.

The following illustration shows the location of the switches, connectors, and adapters used with the GT-906 Series tablet.

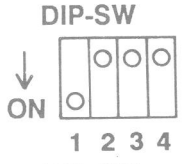


The Genius Tablet dip switch setup shows the various combinations to use when using a particular mode.

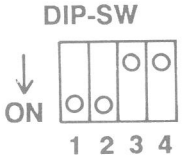
Digitizer Mode



Mouse Systems Mouse Mode



Microsoft Mouse Mode



Operating Specifications

The following specifications are given in order to better understand the operation of your Genius Tablet.

Proximity

25mm for cursor, 20mm for stylus

This is the maximum distance the cursor (or stylus) can be held above the working area and still be able to report the position of the cursor (or stylus).

Accuracy

+/- 0.20mm (+/-0.01 inch)

This indicates how closely a point's actual position is determined.

Jitter

cursor +/- 1 least significant bit, stylus +/-2 least significant bit.

This amount is the difference in values collected by the tablet for the same point (such as 8.999,9.000,9.001). Jitter is caused by electrical noise in the circuitry of the tablet which affects the signal that determines the location. Jitter is measured as one unit of the set resolution.

Repeatability

+/-0.250mm or better

This amount is how closely the actual coordinates of the tablet are shown when continually locating the same point. Jitter and temperature are taken into consideration for this measurement.

Cursor eccentricity

+/-0.125mm or better

This amount is how much the electrical center varies from the crosshair center as the cursor is rotated 360 degrees.

Note: With the operating specifications of proximity and accuracy, more than 90 percent of the working area of the tablet performs to the above given specifications at 25 degrees Celsius. This performance slightly diminishes at the outermost edges and corners of the working area.

Pin Assignments

The pin assignments which link the Genius Tablet and the computer are as follows:

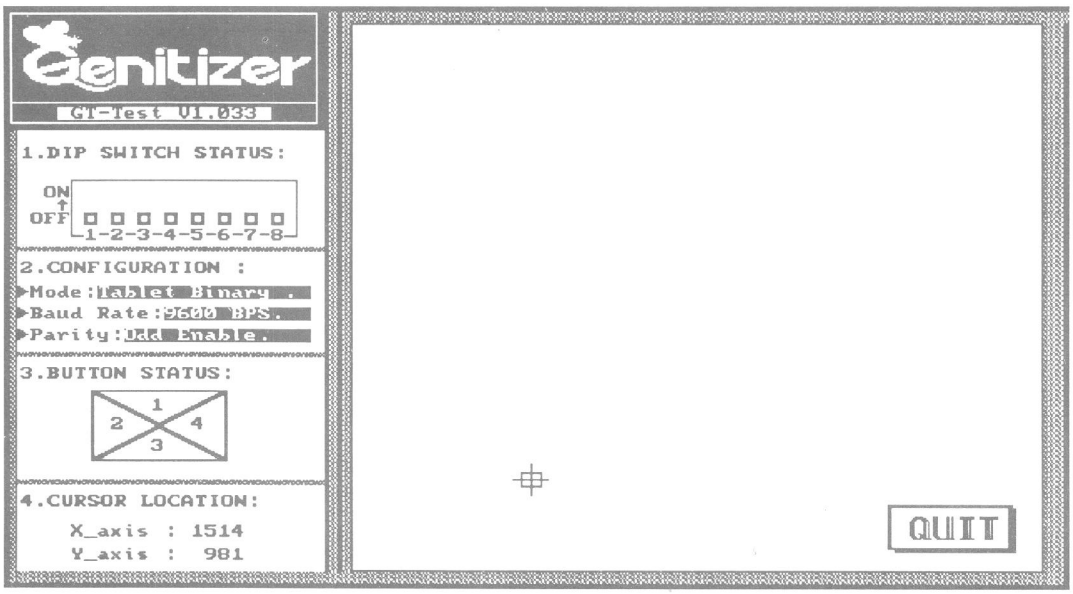
The male 8-pin DIN connector has the following pin assignments:

Pin	Function
1	Ground
2	Switch 4
3	Coil Signal
4	Ground
5	Switch 1
6	Ground
7	Ground
8	Switch 2

Checking the Genitizer

A quick check of the GT-906 Series Tablet can be performed by the following operations.

Power-up your computer with the Genius Tablet connected. Run the GTTEST.EXE program on your utility disk, start at the origin and move the cursor (or stylus) in a horizontal direction directly across the working area. The Y value remains the same and the X value increases.



Return to the origin and move the cursor (or stylus) in a vertical direction towards the top of the working area. The X value remains constant and the Y value increases.

Change the Dip switches and press the buttons on the stylus and cursor one by one to check if they are operating properly.

Another method to check the functional capabilities of the GT-906 Series tablet is to run the diagnostic functions. These functions are initiated from your computer. They are Self Test, Send Test Results, and Echo.

Power ON the Genius Tablet and initiate each diagnostic command and review the results. These commands are discussed in the section GT-906.DOC of the Genitizer Utility diskette.

If the GT-906 Series tablet fails to operate or fails any of the diagnostic functions, check your computer to see if it is functioning correctly. Power OFF your computer if you want to check the cable connections to see if they are firmly attached.

Care & Cleaning

As with all electronic equipment, it is necessary to exercise care while handling and cleaning the GT-906 Series tablet.

- Avoid dropping or knocking the tablet, cursor, or stylus. Do not drop the cursor.
- To clean the Genius Tablet and its accessories, disconnect the power cable from the power source.
- Use a soft cloth lightly dampened with water or a non-abrasive cleaner which does not harm plastic components.
- Do not use chemicals or abrasive materials which may damage the plastic, as these will mar the tablet's finish.
- Never immerse any part of the tablet, cursor, or stylus in any liquid as this action will damage the GT-906 Plus circuitry.

Stylus Refill Replacement

To replace the stylus refill, pull the refill straight out from the body of the stylus. Insert a new refill in its place. Do not attempt to separate the stylus body as this will cause damage to the internal components.

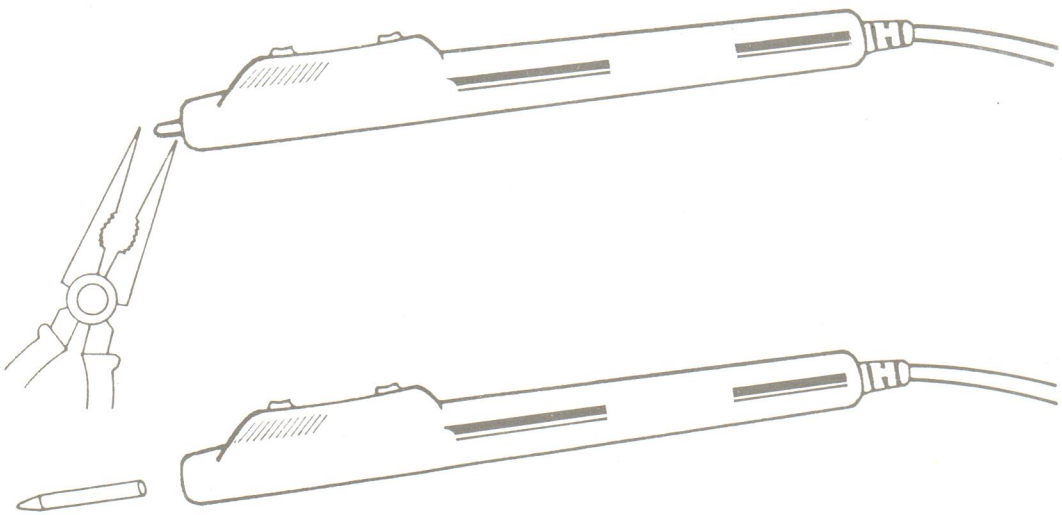


Figure 2-1 Replacing the Stylus Refill

Refill Reorder No: KY892001

Appendix A

AutoCAD Template For Use on GT-906 Tablet

The **AutoCAD Template** is designed to be used with the **GT-906 Tablet.** This template speeds up the operations in AutoCAD and provides a quick alternative to the keyboard. The AutoCAD template is removable. Lift up the cover sheet on the working area and remove the template if necessary. To use the template, place it on the working area and you are ready to begin using AutoCAD.

The tablet menu is for use with the AutoCAD template. It operates in conjunction with the screen menu to provide easy access to all AutoCAD capabilities. The AutoCAD template is shown below in figure A-1.

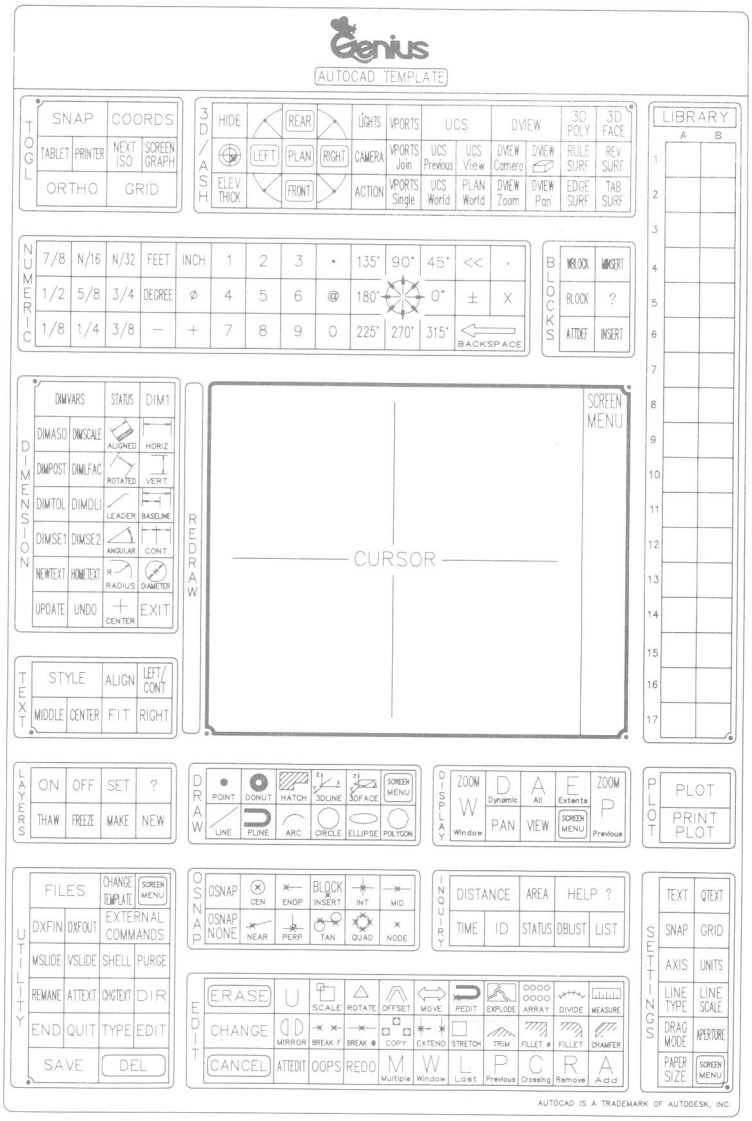


Figure A-1 AutoCAD Template

Auto CAD Template

Use AutoCAD's **Tablet Cfg** command to configure the four menu areas and the screen pointing area. Every menu is defined by three points and the screen pointing area is defined by two points. These reference points are indicated in Figure A-2. The **Tablet Cfg** command will ask you for the number of columns and rows in each menu area of the template. These are the values to be used:

Menu Area	Column	Rows
1	17	8
2	5	10
3	3	18
4	20	10

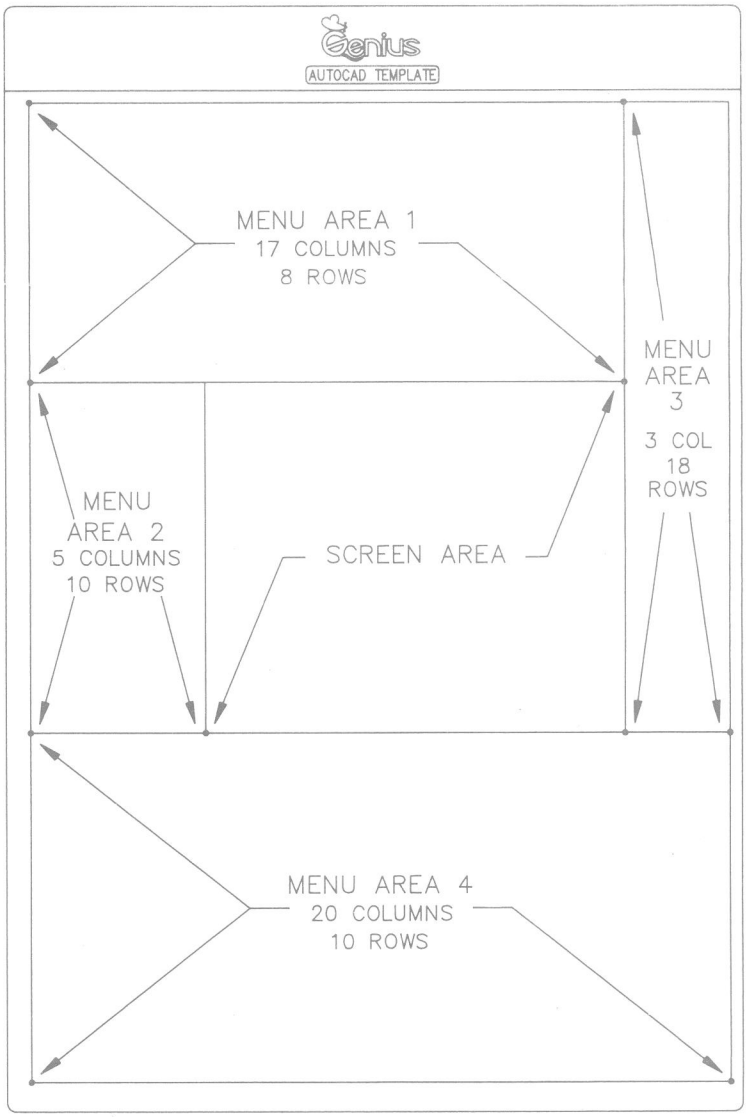


Figure A-2. AutoCAD Template. Menu Areas, Screen Area, and Reference Points.

Configuring the Auto CAD Software

When installing AutoCAD, configure AutoCAD in the Main Menu in the following sequence.

Go to the Main Menu, select Option No.5: Configure AutoCAD

Select Option No.2: Set up I/O port configuration in Configuration Menu.

Select Option No.4: Configure digitizer in Configuration Menu.

Select Summagraphic MM-961 mode, enter port name, select "four button cursor" or "stylus", and select "digitizer mode" for operating mode.

Keep the configuration changes and enter (0) to exit from the Main Menu.

Digitizing the Tablet

The Tablet can be configured to use the AutoCAD template. Load the menu file, **ACADR10.MNU** from the GT-906 utility diskette, then begin AutoCAD. Go to the Main Menu, select Option No.1: Begin a new drawing, enter the name of the drawing, and proceed to follow the procedures as shown below.

Command: tablet (return)

Option (ON/OFF/CAL/CFG): cfg

Enter number of tablet menus desired (0-4) (0):4 (return)

Digitize upper left corner of menu area 1: (Use cursor to pick point)
Digitize lower left corner of menu area 1: (Use cursor to pick point)
Digitize lower right corner of menu area 1: (Use cursor to pick point)
Enter the number of columns for menu area 1: 17 (return)
Enter the number of rows for menu area 1: 8 (return)

Digitize upper left corner of menu area 2: (Use cursor to pick point)
Digitize lower left corner of menu area 2: (Use cursor to pick point)
Digitize lower right corner of menu area 2: (Use cursor to pick point)
Enter the number of columns for menu area 2: 5 (return)
Enter the number of rows for menu area 2: 10 (return)

Digitize upper left corner of menu area 3: (Use cursor to pick point)
Digitize lower left corner of menu area 3: (Use cursor to pick point)
Digitize lower right corner of menu area 3: (Use cursor to pick point)
Enter the number of columns for menu area 3: 3 (return)
Enter the number of rows for menu area 3: 18 (return)

Digitize upper left corner of menu area 4: (Use cursor to pick point)
Digitize lower left corner of menu area 4: (Use cursor to pick point)
Digitize lower right corner of menu area 4: (Use cursor to pick point)
Enter the number of columns for menu area 4: 20 (return)
Enter the number of rows for menu area 4: 10 (return)

Do you want to respecify the screen pointing area? (N) Type "Y" and press (return)

Digitize lower left corner of the screen pointing area: (pick point)

Digitize upper right corner of screen pointing area: (pick point)

After completing the above procedures, the AutoCAD template is ready to be used.

The template was designed in a way which allows the user to access the major categories of commands very quickly, however, not all AutoCAD commands are listed on the template. Select "Screen Menu" box from the template to display the remaining commands on the screen menu.

Note:

The blank strips between the menu areas can be used as RETURN; you can select anywhere in these areas for Return.

Selecting Text under the Settings category allows you to set a default of either Text or DText for use by the Text category.

The boxes in the Text category (CONT./LEFT,CENTER,RIGHT,ALIGNED,MIDDLE, and FIT take you directly to the Text or DText command with the specified type of justification.

Under the LAYER category, "?" will list the status of your layers, and SET will prompt a new current layer.

In the NUMERIC category, BACKSPACE can be used to back up over numeric entries before they are finally entered.

An angle (0, 45, 90, 135, 180, 225, 270, or 315 degrees) can be entered by first picking the " < " box and then the appropriate value.

Symbol Library Configuration

Menu area number 4 (on the right side of the template) has been reserved for you to customize. If you would like to add drawings and symbols you have created to the tablet menu, you can edit the "acad.mmu" file with a word processor that uses ASCII code format.

The "acad.mnu" file is set up so that each item listed correctly corresponds to a specific location on the template, such as (A-1), (A-2), etc.

Before you begin, you need to make a directory which will store your symbols. After the DOS prompt, enter: **md symbol**

These procedures explain how to place symbols into the symbol library.

1. In the AutoCAD program, draw your most often used symbols. Use the Block command to define your symbol on the screen. Save the Block using the WBlock command by this method: Drive:/Directory/Filename
2. Using a word processor that accepts the ASCII format, open the "acad.mnu" file from your AutoCAD directory. Move to the end of this file where you find the area "***TABLET 4, 1-A, 1-B, etc. The lines 1-A, 1-B, and so on represent the locations in the symbol library.

3. To place a symbol in a selected area of the symbol library, delete the line that represents this area in the acad.mnu. Now change this line with the following command:

   $S=X $S=INSERT ^C^C INSERT /Directory/Filename (List X Y)

   For every symbol or drawing you want to place in the symbol library, this command line must be inserted in that position of the acad.mnu. Make sure you name the directory of your drawing and file name correctly.

4. Now save the modified acad.mnu in the AutoCAD directory to replace the existing menu.

5. To remember the symbols placed the in the symbol library, paste or draw symbols in each corresponding area of the symbol library on the template where you modified the acad.mnu.

To use this symbol or drawing while you are using the AutoCAD program, move the cursor to the symbol library and click BUTTON 1 on the square (1-A, 1-B, etc.) that the symbol or drawing is saved under. This symbol now appears in the AutoCAD window ready to be inserted into your drawing.

Important: Make a backup copy of the utility diskette before you make any modification to the ACAD.MNU file.

Genius Cursor Button Functions

The buttons on the cursor are used for specific functions in different software applications. The following descriptions explain their uses in various software.

For AutoCAD the functions of each button are:

Button 1	Select; pick up a command or specify a point on the screen
Button 2	Return
Button 3	Display "object snap overrides" submenu on the screen (same as the screen menu's "****" item).
Button 4	Cancel the operation just entered.

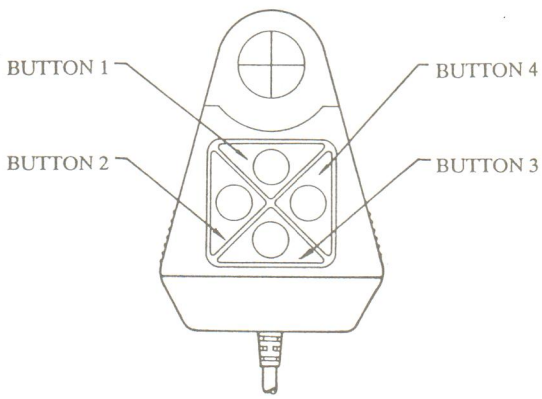
For Other Software use: (Dr. Halo III, GEM, VERSACAD)

Button 1	Select
Button 2	Return

Button 3 & 4 No functions

For Mouse mode use: (Microsoft Mouse, Mouse Systems Mouse)

Button 1	Middle button
Button 2	Left button
Button 3	Left & middle button
Button 4	Right button



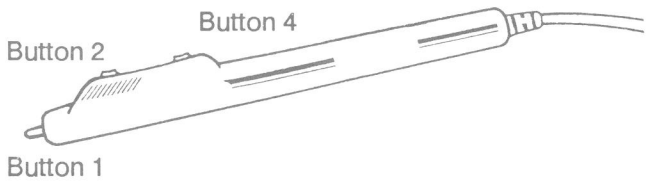
Genius Stylus Functions

For AutoCAD:

Button 1	Select
Button 2	Return
Button 4	Cancel

For Other Software:

Button 1	Select
Button 2	Return
Button 4	No Function



Note: Button 3 is disabled using the GT-906

Software Files

The software used along with the GT-906 is listed below. These files were briefly explained in Chapter 2.

GTTEST.EXE This file is the test program where you can check the working status of the configuration, dip switches, puck or stylus buttons.

SETUP.DOC This file has two section which explain the hardware and software installation procedures step by step for the GT-906 Series.

GENITIZE.DOC This file explains the steps necessary for writing a software driver. This file also gives remote commands through your computer and details of the operations.

GTADI.COM This is the ADI driver file for use with AutoCAD, Autoshade, and Auto-Sketch.

GTADI.DOC This file contains the method for using the ADI driver.

GTFMT.COM This is the utility program file to change the GT-906 Series output format.

GTFMT.DOC This file provides the necessary steps for using the GTFMT.COM program.

ACADR10.MNU This is the template file when you are using AutoCAD version 10. Labels are provided to place on the template to update to version 10.

Remark: Before running AutoCAD version V9.00 or above, you must have co-processor (8087, 80287, 80387,...) installed in your computer.

Appendix B

ASCII Conversion Chart

Decimal	Binary 7 6 5 4 3 2 1 0	Octal	Hex	ASCII Character	Control Function Character Description
0	0 0 0 0 0 0 0 0	000	00	NUL	Null
1	0 0 0 0 0 0 0 1	001	01	SOH	Start of Heading
2	0 0 0 0 0 0 1 0	002	02	STX	Start of Text
3	0 0 0 0 0 0 1 1	003	03	ETX	End of Text
4	0 0 0 0 0 1 0 0	004	04	EOT	End of Transmission
5	0 0 0 0 0 1 0 1	005	05	ENQ	Enquiry
6	0 0 0 0 0 1 1 0	006	06	ACK	Acknowledge
7	0 0 0 0 0 1 1 1	007	07	BEL	Bell
8	0 0 0 0 1 0 0 0	010	08	BS	Backspace
9	0 0 0 0 1 0 0 1	011	09	HT	Horizontal Tab
10	0 0 0 0 1 0 1 0	012	0A	LF or NL	Line feed or New Line
11	0 0 0 0 1 0 1 1	013	0B	VT	Vertical Tab
12	0 0 0 0 1 1 0 0	014	0C	FF	Form Feed
13	0 0 0 0 1 1 0 1	015	0D	CR or RT	Carriage Return
14	0 0 0 0 1 1 1 0	016	0E	SO	Shift Out
15	0 0 0 0 1 1 1 1	017	0F	SI	Shift In
16	0 0 0 1 0 0 0 0	020	10	DLE	Data Link Escape
17	0 0 0 1 0 0 0 1	021	11	DC1	Device Control 1
18	0 0 0 1 0 0 1 0	022	12	DC2	Device Control 2
19	0 0 0 1 0 0 1 1	023	13	DC3	Device Control 3
20	0 0 0 1 0 1 0 0	024	14	DC4	Device Control 4
21	0 0 0 1 0 1 0 1	025	15	NAK	Negative Acknowledge
22	0 0 0 1 0 1 1 0	026	16	SYN	Synchronous Idle
23	0 0 0 1 0 1 1 1	027	17	ETB	End Transmission Block
24	0 0 0 1 1 0 0 0	030	18	CAN	Cancel
25	0 0 0 1 1 0 0 1	031	19	EM	End of Medium
26	0 0 0 1 1 0 1 0	032	1A	SUB	Substitute
27	0 0 0 1 1 0 1 1	033	1B	ESC	Escape
28	0 0 0 1 1 1 0 0	034	1C	FS	File Separator
29	0 0 0 1 1 1 0 1	035	1D	GS	Group Separator
30	0 0 0 1 1 1 1 0	036	1E	RS	Record Separator

ASCII Conversion Chart

Decimal	Binary 7 6 5 4 3 2 1 0	Octal	Hex	ASCII Character	Control Function Character Description
31	0 0 0 1 1 1 1 1	037	1F	US	Unit Separator
32	0 0 1 0 0 0 0 0	040	20	SP	Space
33	0 0 1 0 0 0 0 1	041	21	!	Exclamation Point
34	0 0 1 0 0 0 1 0	042	22	"	Double Quote
35	0 0 1 0 0 0 1 1	043	23	#	Number of Pound
36	0 0 1 0 0 1 0 0	044	24	$	Dollar
37	0 0 1 0 0 1 0 1	045	25	%	Percent
38	0 0 1 0 0 1 1 0	046	26	&	Ampersand
39	0 0 1 0 0 1 1 1	047	27	'	Apostrophe Right Single Quote
40	0 0 1 0 1 0 0 0	050	28	(	Left Parenthesis
41	0 0 1 0 1 0 0 1	051	29	)	Right Parenthesis
42	0 0 1 0 1 0 1 0	052	2A	*	Asterisk
43	0 0 1 0 1 0 1 1	053	2B	+	Plus or Addition
44	0 0 1 0 1 1 0 0	054	2C	,	Comma
45	0 0 1 0 1 1 0 1	055	2D	-	Hyphen
46	0 0 1 0 1 1 1 0	056	2E	.	Period
47	0 0 1 0 1 1 1 1	057	2F	/	Slash
48	0 0 1 1 0 0 0 0	060	30	0	
49	0 0 1 1 0 0 0 1	061	31	1	
50	0 0 1 1 0 0 1 0	062	32	2	
51	0 0 1 1 0 0 1 1	063	33	3	
52	0 0 1 1 0 1 0 0	064	34	4	
53	0 0 1 1 0 1 0 1	065	35	5	
54	0 0 1 1 0 1 1 0	066	36	6	
55	0 0 1 1 0 1 1 1	067	37	7	
56	0 0 1 1 1 0 0 0	068	38	8	
57	0 0 1 1 1 0 0 1	071	39	9	
58	0 0 1 1 1 0 1 0	072	3A	:	Colon
59	0 0 1 1 1 0 1 1	073	3B	;	Semicolon
60	0 0 1 1 1 1 0 0	074	3C	<	Less Than

Decimal	Binary 7 6 5 4 3 2 1 0	Octal	Hex	ASCII Character	Control Function Character Description
61	0 0 1 1 1 1 0 1	075	3D	=	Equals
62	0 0 1 1 1 1 1 0	076	3E	>	Greater Than
63	0 0 1 1 1 1 1 1	077	3F	?	Question Mark
64	0 1 0 0 0 0 0 0	100	40	@	Commercial At
65	0 1 0 0 0 0 0 1	101	41	A	
66	0 1 0 0 0 0 1 0	102	42	B	
67	0 1 0 0 0 0 1 1	103	43	C	
68	0 1 0 0 0 1 0 0	104	44	D	
69	0 1 0 0 0 1 0 1	105	45	E	
70	0 1 0 0 0 1 1 0	106	46	F	
71	0 1 0 0 0 1 1 1	107	47	G	
72	0 1 0 0 1 0 0 0	110	48	H	
73	0 1 0 0 1 0 0 1	111	49	I	
74	0 1 0 0 1 0 1 0	112	4A	J	
75	0 1 0 0 1 0 1 1	113	4B	K	
76	0 1 0 0 1 1 0 0	114	4C	L	
77	0 1 0 0 1 1 0 1	115	4D	M	
78	0 1 0 0 1 1 1 0	116	4E	N	
79	0 1 0 0 1 1 1 1	117	4F	O	
80	0 1 0 1 0 0 0 0	120	50	P	
81	0 1 0 1 0 0 0 1	121	51	Q	
82	0 1 0 1 0 0 1 0	122	52	R	
83	0 1 0 1 0 0 1 1	123	53	S	
84	0 1 0 1 0 1 0 0	124	54	T	
85	0 1 0 1 0 1 0 1	125	55	U	
86	0 1 0 1 0 1 1 0	126	56	V	
87	0 1 0 1 0 1 1 1	127	57	W	
88	0 1 0 1 1 0 0 0	130	58	X	
89	0 1 0 1 1 0 0 1	131	59	Y	
90	0 1 0 1 1 0 1 0	132	5A	Z	
91	0 1 0 1 1 0 1 1	133	5B	[	Left Square Bracket
92	0 1 0 1 1 1 0 0	134	5C	\	Back Slash
93	0 1 0 1 1 1 0 1	135	5D	]	Right Square Bracket
94	0 1 0 1 1 1 1 0	136	5E	^	Circumflex
95	0 1 0 1 1 1 1 1	137	5F	_	Underscore

ASCII Conversion Chart

Decimal	Binary 7 6 5 4 3 2 1 0	Octal	Hex	ASCII Character	Control Function Character Description
96	0 1 1 0 0 0 0 0	140	60	‘	Left Single Quote
97	0 1 1 0 0 0 0 1	141	61	a	
98	0 1 1 0 0 0 1 0	142	62	b	
99	0 1 1 0 0 0 1 1	143	63	c	
100	0 1 1 0 0 1 0 0	144	64	d	
101	0 1 1 0 0 1 0 1	145	65	e	
102	0 1 1 0 0 1 1 0	146	66	f	
103	0 1 1 0 0 1 1 1	147	67	g	
104	0 1 1 0 1 0 0 0	150	68	h	
105	0 1 1 0 1 0 0 1	151	69	i	
106	0 1 1 0 1 0 1 0	152	6A	j	
107	0 1 1 0 1 0 1 1	153	6B	k	
108	0 1 1 0 1 1 0 0	154	6C	l	
109	0 1 1 0 1 1 0 1	155	6D	m	
110	0 1 1 0 1 1 1 0	156	6E	n	
111	0 1 1 0 1 1 1 1	157	6F	o	
112	0 1 1 1 0 0 0 0	160	70	p	
113	0 1 1 1 0 0 0 1	161	71	q	
114	0 1 1 1 0 0 1 0	162	72	r	
115	0 1 1 1 0 0 1 1	163	73	s	
116	0 1 1 1 0 1 0 0	164	74	t	
117	0 1 1 1 0 1 0 1	165	75	u	
118	0 1 1 1 0 1 1 0	166	76	v	
119	0 1 1 1 0 1 1 1	167	77	w	
120	0 1 1 1 1 0 0 0	170	78	x	
121	0 1 1 1 1 0 0 1	171	79	y	
122	0 1 1 1 1 0 1 0	172	7A	z	
123	0 1 1 1 1 0 1 1	173	7B	{	Left Curved Bracket
124	0 1 1 1 1 1 0 0	174	7C	|	Vertical Line
125	0 1 1 1 1 1 0 1	175	7D	}	Right Curved Bracket
126	0 1 1 1 1 1 1 0	176	7E	~	Tilde
127	0 1 1 1 1 1 1 1	177	7F	DEL	Delete(Rubout)

Appendix C

Command List

For GT-906 Tablet

REMOTE COMMANDS

Command	ASCII	hex
Autobaud	sp	20
Origin:		
horizontal	b	62
vertical	c	63
Report Modes:		
Trail Mode	@	40
Change Trail Mode	A	41
Location Mode	B	42
Remote Request Mode		
mode command	D	44
trigger command	P	50
Report Format:		
Absolute Mode	F	46
Relative Mode	E	45
Increment Distance Mode		
command	I	49
value	SP to Z	20 to 7A
Axis Advance Mode		
command	G	47
value	SP to Z	20 to 7A
Report Rate:		
max/32	T	54
max/8	S	53
max/2	R	52
maximum	Q	51
Read Configuration < Command >	a	61
Read Tablet Switch/Report Form	~	7E
Read Tablet Model/Version	DEL	7F
Self Test	t	74
Send Test Results	w	77
Resolution		
10 lpmm (254 lpi)	f	66
20 lpmm (508 lpi)	i	69
40 lpmm (1016 lpi)	q	71
100 lpi	d	64
200 lpi	e	65
400 lpi	g	67
500 lpi	h	68
1000 lpi	j	6A
Grid Setup		
1 lpi	l	6C
2 lpi	n	6E
4 lpi	p	70
Set X,Y Dimension	r	72
X axis low byte	N/A	00 to FF
X axis high byte	N/A	00 to FF
Y axis low byte	N/A	00 to FF
Y axis high byte	N/A	00 to FF

C Command List for Genius Tablet

Command	ASCII	hex
Receive Command Control		
enable	"	22
disable	#	23
Change RS232C Form <Comand> <Parameters>		
Command		
Set Parameters	*	2A
	<See GENITIZE.DOC>	
Change Report Format		
Summagraphics MM Series	:	3A
Bit Pad One/Calcomp 2000	;	3B
GTCO Digipad 5	<	3C
GTCO Digipad 7	=	3D
Hitachi Tiger	>	3E
End Transmission	DC3	13
Begin Transmission	DC1	11
Tablet I.D. Call		
zero	0	30
one	1	31
Echo	k	6B
Reset	NUL	00

Default Configuration

Baud Rate = 9600 fixed
Report Form = 8-bit packed binary, including one stop bit and parity (odd) enable

Default Operating Characteristics

Axis Advance	= 0
Increment Advance	= 0
Origin	= vertical
Report Mode	= change trail
Report Rate	= maximum
Resolution	= 500 lpi
Tablet I.D. Call	= 0

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